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## PATENT APPLICATION

*Subj*) 32. (AMENDED) A method for implementing a heartbeat protocol, comprising; sending, directly to one or more selected servers, heartbeat messages from a single selected computer, indicating the availability of computer resources on one or more computers, such that loss of heartbeat messages from the selected computer is indicative that all computer resources on the one or more computers are unavailable, and the presence of a heartbeat from the selected computer is indicative that all computer resources are available.

33. The method of Claim 32 further comprising the step of the single selected computer requesting a new heartbeat rate, and upon agreement by the one or more selected servers to the new heartbeat, implementing the new heartbeat rate.

34. The method of Claim 32 further comprising the step of the one or more selected servers imposing at any time a minimum heartbeat period on the selected computer.

35. The method of Claim 32 further comprising the step of generating a message by the selected computer in accordance with the heartbeat protocol to indicate unavailability of the one or more computer resources.

36. The method of Claim 32 further comprising the step of generating a message by the selected computer in accordance with the heartbeat protocol to indicate unavailability of the one or more computer resources; and generating an acknowledgement of unavailability message by the server to the selected computer.

37. A method for implementing a heartbeat protocol, comprising:  
receiving heartbeat messages generated by a single selected computer, the heartbeat messages indicating the availability of resources on one or more computers, such that loss of heartbeat from the selected computer is indicative that all computer resources are unavailable, and the presence of a heartbeat from the selected computer is indicative that all computer resources are available;

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determining from the presence or absence of the heartbeat messages that all computer resources are available or unavailable; and

providing a response to a message query for the computer resources for which the heartbeat is absent that the computer resources are unavailable.

38. The method of Claim 37, further comprising providing additional information associated with the response to the message query concerning the computer resources.

39. The method of Claim 37, further comprising providing additional information associated with the response to the message query concerning when the resource is expected to become available.

40. The method of Claim 38, wherein the additional information provided comprises a text message.

41. The method of Claim 37, wherein the heartbeat is monitored by a primary master name server for a zone of a communications network comprising the computer resources.

42. The method of Claim 37, wherein the heartbeat is generated by at least one computer within a domain name zone.